

Miscellaneous

CASTLE IN THE SEA. AN ADVENTURE IN A DIVING-BELL.

The desire to see a real diver, strengthened with years, to give place, at last, to a desire to go down in a diving-bell.

I have a theory, founded on experience, that what a man has set his mind on doing, he is sure to do. He may have to wait some years before the opportunity arrives, but if his mind remains fixed in the same direction, that opportunity will assuredly come.

The theatre of my diving-bell experiment grew upon me by degrees: it was the Admiralty pier works off Dover. It must have been ten or twelve years ago, when I saw the first signs of that work on the south coast, which has now resulted in a projecting pier-arm of firm masonry stretching half a mile towards France into the stormy Channel sea, and which in twenty years more, perhaps, will be finished as a breakwater and a harbor of refuge. Sometimes the workmen leave their chains, their scaffolding, and their blocks of stone on a calm summer's evening, to come back and find that a storm in the night has swept away many costly months of hard, patient labor.

It was at the farthest end of this half-mile roadway into the Channel (thanks to the kind exertions of my friend, Mr. Smiles, of the South Eastern Railway, Mr. Wey the station master at Dover, and Mr. Lee the contractor) that I was allowed to make my first acquaintance with the bottom of the sea.

I arrived at the works on the sultry afternoon of the second of June, and was conducted, at once, down a muddy lane of iron tramway, between what appeared to be solid blocks of masonry, raised on each side, like the walls of some fortification. These were square granite boxes, made to a certain thickness of stone, and filled with a concrete mixture of sea-sand, pebbles, and lime. This composition, which takes several months to ripen or harden, is used from motives of economy, and when the boxes are fit for use, they are piled one upon another, and form the roadway into the sea. They are marked with a number, a date, and a price—the latter being three pounds sterling—which partly show the progress and cost of the work.

Near the sea end of this lane, standing upon one side under the heavy overhanging scaffolding, and between the concrete blocks, was a small wooden hut, not unlike a fisherman's, but in shape, but presenting the appearance of a rude early store in Australia for the sale of boots, coats, and Guerney shirts. A large old cracked lantern was among the apparent stock in trade; but several large boots, such as are worn by men who go down the sewers, formed the staple. Most of these boots were hanging up against the wall of the hut, like specimens of some well-greased black and unknown beast; the great nails in the heavy sole, grinning like a hundred teeth. One pair were lying in a badly-legged posture on a heap of rubbish at the door of the hut, looking like the limbs of a fierce horse-soldier, whose body had been blown away in battle.

This was the haunt of the merman-stonemasons, where the dry clothes of earth were exchanged for the sodden, pickled, salt-stiffened clothes of the sea; and here I, as an amateur merman, was distinguished, so that I might have deceived my own mother as to my identity.

It appeared that I had undertaken to do something which, if not very desperate, was very rare. No 'amateur,' as I was called, had ever been down in a bell during the whole twelve years the works had been in progress. Princes of the blood, it was told, had exhibited a desire to see something of the lower merman-life, and had been courteously but firmly refused. I thought that princes of a little blood as possible, were the best persons to descend in diving-bells, because of the determination of that vital fluid to the head. Any way, the hour of trial to the bottom of the sea that I had asked Mr. Lee, the contractor, to give orders for me to receive, was a luxury, apart from its rarity, that would add ten pounds to the cost of the party.

I put on a blue Jersey fisherman's shirt, a pair of long, dark, rough, grey leg-bags—I cannot call them stockings—which made me look as if I were made up at that extreme to perform the part of a min monkey; and after this I drew on a pair of loose brown feline trousers. At this point I felt very apprehensive and puffy, and experienced a difficulty in stooping, which compelled me to call for assistance in getting into my water-proof seven-league boots. When this defensive toilet, this human fortification, was completed with a water-proof south-western cap, I stood up a perfect merman, allowing for the dash of the amateur which I have before alluded to. My attempts at walking were heavy, dignified, and slow. There was no springiness, no dancing-matter elasticity, about me. My frail, but once active body, was like a mummy encased in many solid folds; and at every step I took, I felt a resisting weight, as if I were walking through a thick bog.

A few paces out of the hut, and up the lane towards the sea, and I found myself among my fellow-mermen. Some were trudging towards the shore, having finished their day's work, while others were setting on the sea-washed stone steps, which formed the termination of the pier work, as far as it had reached, waiting for the rising of the bell which was to take them down below. They were all dressed very nearly in the same style as myself, except that my clothes had the proper amateur quality of being perfectly new.

Beyond this wet, slimy, iron-bound pyramid of steps, stretching some little distance further into the sea, was a heavy and solid scaffolding, reaching far above our heads, and supported upon strong piles more than one-half in the water, and with the other part out.

These piles, which cost about fifty pounds each, and which are often washed away in a storm, like straw, are strongly shod with iron. The part of them which appears immediately above the water is hung with rich brown sea weed, topped with a deep border of green moss above. Standing upon some of the stone blocks which have already begun to peep above the surface of the water within this framework, were several of my fellow merman, who looked like arctic voyagers among the ice.

Age of a tortoise, which that animal sometimes condescends to put out. The illusion was instantly destroyed by seeing the two merman, who had been at work in the bell, following their legs, and dropping into the boat, to be rowed toward the wet and slimy pyramid of steps.

They had been down for the second five hours' period of their two daily dips (their day's work under water being about ten hours) and they looked muddy, wet, heavy and tired, and flushed in the face with a reddish-olive brown. They go to work in couples at daybreak, and their wages are a little higher than they would get on land, being about one hundred pounds a year.

The diving-bells that are used at these works seem to be the ordinary engineering bell, or boxes first employed by Mr. Smeaton in repairing the foundations of Hestonbridge in 1779, and afterwards in 1788, when he was engaged in constructing Ramsgate harbor. The air, in this instance, is pumped down a conger-eel-looking tube from the scaffolding above; another tube runs up to the same machine, containing an endless chain, by which anything can be drawn into the bell while it is under water; another tube is placed in the same position, through which the diver below, can signal to those above to shift the bell from place to place; finally, the whole structure is suspended by strong chains, fastened to nutted rings in the top of the bell. The tubes are elastic, and prevented from closing by a metal framework which runs up the inside.

I dropped clumsily down the pyramid of steps toward my boat, putting my heavy boots in the water that dashed over the stone, and my hands in slimy, blanched sea-weed, that had clung to the masonry and looked like macaroni. In stormy weather, I was told the merman are sometimes washed off these steps; but as I descended in what was considered fine weather, I was merely washed on them.

A few minutes, with a few bounding pulls of the merman's special waterman, and I found myself under the dripping dome of my allotted diving-bell. Seizing a large iron ring which hung from the roof of the bell, I drew myself up into the chamber, placed my feet upon a muddy narrow board that went across from side to side and rested upon two small ledges, and seated myself upon another board, similarly supported, that went across one end of the bell, like a seat in a four-wheeled cab. My companion merman—a regular diver, who had directed my movements—followed me, and placed himself on the opposite side. The boat glided away, and we were left suspended over the water.

Our apartment had something of the bathing-machine about it; something of the condemned cell in Newgate; something of the coal-miner; and something of Robinson Crusoe's hut. It was about four feet and a half high, four feet broad, and six feet long. Its walls were of cast-iron, about three inches thick, and its roof was slightly concave from the interior, containing six thick circular bull's-eye windows, about the size of tea-saucers, which, being covered outside with four crossed and re-crossed bars of iron as a protection from falling stones, presented the appearance of open-work tarlets. On one side of the bell were hanging a heavy pickaxe, a thick shovel, a crowbar, a hammer, a bill-hook—all of solid make—and a bundle of dirty tow that looked like a doll. On the other side-wall of the bell was a short length of iron saw-work, reminding me very forcibly of Jack Sheppard in the strongest cell of Newgate, Baron Trenck in prison, or the lowest dungeon of the castle keep. This chain, for chain it was, was carried to be attached to a strong nutted ring in the roof of the bell, dropping into the water with a hook at its other end: which hook, when fastened to the ring at the top of every stone block that had been lowered by machinery to the bottom of the sea, would raise or move the stone by the simple raising or moving of the bell. This, in substance, was all the heavy work that was performed with the diving-bell machinery, the divers going down to attach and detach the chains—to place the blocks by directing the motions of the bell through signals given to the men above—and to dig out and level the foundation amongst the sea-anemones at the base.

We are let down, almost imperceptibly, by two men at the windlass machinery. As two fundamental principles in the management of diving-bells are, that they shall descend so that the four sides of the lower edge may touch the water on all sides simultaneously, and that the downward journey through the water shall be gradual and slow, any rapid paying out of the lowering chains would be instant death to those in the bell, by filling it with water. This accident is provided against by a checking 'trib' of complicated structure, but of simple self-acting operation, which, the moment it is required, immediately comes into use.

By degrees, the square patch of thick milky fluid beneath our feet appears to rise towards us, and we are made aware of the bell having bitten the sea by a flopping, sucking noise, and the swelling up of the water to the narrow plank across the centre, near the bottom, on which we rest our seven-league boots. At this moment I became conscious of the measured beat of the watchful air-forcing pump, which sounds like the bumping of a heavy footstep in a moderate-sized house, two floors overhead; it is followed by a gentle smothering, like the respirations of a horse, the struggle of the air through the valve at the bottom of the conger-eel-looking tube. This valve is in the centre of the roof of the diving-bell, and cannot be interfered with by the men in the cell. If the bumping of the pump ceases, or the smothering is no longer heard, it is the duty of the diver to pull the raising signal, as the supply of life is no longer coming in, and five or six minutes may exhaust the existing stock of air.

Our destination is sixty feet below the surface, or twice the depth of the street seen from the top of an ordinary house; and very slowly we proceed to reach it. The thick water below us is now stationary, and we have no guide by which to measure our progress except the different gradations of light. I am first made aware of the whole bell being under water by having my attention drawn, by my fellow-merman, who wears a cap, and looks like Robinson Crusoe, to a few pinches of sand that are washed about on the top of the bell's eye windows. There is a calm silence, only broken by the flapping of a chain against the outside of the bell; the glittering sunlight, toned down as it has been by the thick glass, immediately changes to a bright green twilight; and the water casts off its milky thickness, and looks like green lamp-oil. This green color was caused by the yellow sand still mixing with the blue water, as we were not far enough out from the land to get into the deep blue sea. At this moment I felt a sharp pain shooting through my head, which, scientifically speaking, was caused by the pressure of condensed air in the bell, but which, popularly explained, to use the words of an old writer on the subject, was like having a

couple of sharp quills thrust forcibly into each ear.

"Kiss 'em out with a little sea water," said Robinson Crusoe, who sat opposite to me, and whose face became more swarthy every foot we sank: "it did me good when I first went down, some two years ago."

I followed Robinson Crusoe's advice, paddled in the water between my legs, and poked my wet forefingers into my ears; but I cannot recommend the remedy as a perfect cure.

As we got a few feet lower (we sank about two feet a minute) the twilight deepened, and looking upwards through the green bell's eye into the sea above us, it reminded me of watching a large space through a very small window that was covered with an impenetrable fog. Robinson Crusoe now began to prepare for contingencies, by hauling in a candle with the endless chain. When it came at last through the water at the bottom of the bell—a messenger of light from above—it was a small composite dip, that did not seem much injured by its passage down the tube.

A few feet deeper, and the water became clearer—more like glass, and less like green lamp-oil—while the pain in my ears went off to a great extent, as Robinson had predicted it would. The twilight in this bed-chamber deepened, and the water beneath us became even more clear, until we at length sighted our promised land—the bottom of the sea. The water being calm, we had no occasion to light our candle (a light being a very common necessity), and we saw the lumps of chalk and flint lying side by side, like atoms that were magnified in a large microscope. The sea was clear as some spirit twice refined, and it swayed to and fro over its stony bed, like a pond of liquid quicksilver.

Another foot lower, and we slipped off our muddy seats, to stand fairly at the bottom of the sea.

Here Robinson, very kindly, went through a variety of performances, with the view of enlightening me as to the manners and customs of merman-stonemasons while at work in the building under the sea. He took the loose plank upon which I had been sitting, and placed it against the other plank upon which he had been sitting, in a horizontal, but upright position; he then reached a couple of wedges from a small ledge at the side, with which he made this structure firm, until it was turned into a perfect trough. He then took the pickaxe, and dug out a few stones at the bottom of the sea, which he shovelled into his trough, and then we stood upon the lower centre plank, while he gave the sign to those above to move us.

"Now," he said, pulling the signal handle, which was like a syringe handle, a preconcerted number of times, "we'll go over the mud-box."

In a few seconds, with a slight roar as we left the bottom, we found ourselves rising slowly, like a very heavy balloon. The chalk and flint, after shaking about in the liquid glassy microscope for some little time, grew, by degrees, more misty, and, at last, disappeared.

"Now," said Robinson, giving us another preconcerted number of pulls at the signal handle, "we'll hold hard;" and in a few seconds the bell was motionless.

"Now," said Robinson, acting as before, except with regard to the number of pulls, "we'll go to France;" and in a few seconds more, we were moving in a forward direction, away from the English coast. A few paces brought us to the spot where Crusoe knew the mud-box to be, and another series of pulls caused the bell to stop, and assume a downward direction. Casting my eyes in the water, I soon saw the dim outlines of an oblong shape, which gradually developed into a long open coffin, with heavy chains stretched tightly across its surface, and secured in the middle with a large iron ring. A few more seconds of descent, during which this chest of water seemed to rise slowly towards us, and I found that it was full of flint and chalk. The trough in our bell was soon knocked to pieces, by taking out the side wedges, and the rubbish which it contained was swept down into the mud-box beneath. This box, when full, is attached to chains communicating with the machinery above, and is hauled up to any position that the work may require. As a rule, it is drawn up full on the Ramsgate side of the pier, and emptied on the Folkestone, as a protective embankment against the constant and partial washing the sea.

These operations, with the block-raising and block-placing before alluded to, constitute the chief work of Robinson Crusoe and all his merman mates. Occasionally, to save time, excavations are made with the protection of the diving helmet, under the edge of the bell, out into the deep sea. The air is then supplied to the laborer under water, from the chamber of the bell, by means of a tube; and he looks, as he walks upon the dusty uneven pathway, in heavily weighted clogs, to keep him steady and to keep him down, like some curious half-human monster employed in smoking a gigantic hookah the bowl of which is the bell, and the pipe of which is the elastic communicating tube. "This here is divin," as my old friend at the Polytechnic would have said, "and this is the sea."

Robinson, having put the bell through all the paces of which it is capable, lifting and dropping, backwards and forwards, and right and left, at last gave the signal—according to my desire—that we shall be raised once more to the upper world; and five men, as I am informed, now work the windlass which took two men to let us safely down.

We rise, even more slowly and imperceptibly than we descended, because of the pressing weight of water above our heads: the light gradually changes from the black twilight of the bottom, through the green fog of the centre, up to the yellow sunlight higher still. The water over the bell's-eye windows becomes thinner and thinner, until it dashes backwards and forwards like molten silver. The face of the Robinson (who sat opposite to me, the mud trough having been broken up and once more distributed as dirt two end seats) participates in all the changes of light, until it passes from a dark shadow to a bright, open copper-kettle countenance. A thin white mist, or steam, has floated between us all through the upward journey, which the learned tell us, somewhat obscurely, is generated by the water having overcome some portion of the air, in consequence of a slight tilting of the bell while we were at the bottom. No practical merman, or landman, can give any common-sense explanation of the mysterious vapor.

The water got thicker and thicker as we drew near the surface, until it assumed the appearance of thin white paint; and all the way up, my ears were muffled with a crackling, buzzing noise, as if a couple of bees had taken possession of my brain, and were striving to converse with each other across the passages.

At last I saw the silvery water fall off from the bell's-eye, and in a few minutes our wet glittering iron chamber released its hold upon the sea. The fresh air rushed upward, tingling in my body,

like a snuff of smelling salts; the boat came under us once more, containing another merman to take my place, provided with a tin bottle of tea (the chief refreshment the divers are allowed to carry down); and after wishing Robinson good day, I went on shore amongst a gang of merman, who were still sitting patiently on the pyramid of dripping steps, awaiting the arrival of the view and heavy carriages that were to take them to their building at the bottom of the Ocean—"All the Year Round."

AN INFANT BABOON.

The following curious account of a baboon family is translated from a recent French work, by M. Boitard, for Goodrich's "Illustrated Natural History."

"There have been and still are, in the menagerie of the Garden of Plants, Paris, a number of baboons, and four years ago a female, who had a young one, furnished one of the most amusing and singular spectacles I ever witnessed. She was placed with it in a cage, near the one she formerly occupied with several other animals of the same species. The infant baboon was hideously ugly, but she lavished upon it the most tender caresses. When it was eight days old, the door of communication was opened, and her male entered. The mother, seated in the middle of the cage, held the young in her arms, precisely as a nurse would do under similar circumstances. The happy father approached and embraced his mate, kissing her with French gallantry upon each side of the face; he then kissed the little one, and sat down opposite to the mother, so that their knees touched each other. They then both began to move their lips with rapidity, taking the young one from each other's arms as if they were having a most animated conversation concerning it.

"The door was again opened, and the baboon friends entered, one after another, each embracing the mother, who, however, would not allow them to touch the young one. They seated themselves in a circle and moved their lips, as if felicitating the happy couple on the arrival of the son and heir, and perhaps finding in it a marvelous resemblance to either the father or mother. The scene was very much like that which often takes place in the human family on similar occasions, except that we suspect the felicitations were more heartfelt and genuine on the part of the brutes than on that of their more favored prototypes.

"All the baboons wished to caress the young one; but no sooner did one of them put out his hand than a good slap from the mother warned him of his indiscretion. Those who were placed behind her, stretched their hand out slyly, slid it under her arms, and succeeded, sometimes, to their great joy, in touching the little one without the mother perceiving it, particularly when she was engaged in conversation. But a smart correction soon taught them that their indiscretion was observed, and they quickly retreated. It was evident that the monkey mother, thoroughly acquainted with the requirements of her position, knew perfectly well how to divide her attention between her guests and her infant charge.

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